



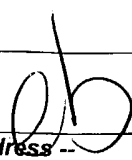
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/776,576	02/02/2001	Russell Allen Monk	31456/204621	7932
826	7590	09/07/2004	EXAMINER	
ALSTON & BIRD LLP BANK OF AMERICA PLAZA 101 SOUTH TRYON STREET, SUITE 4000 CHARLOTTE, NC 28280-4000			VO, HAI	
			ART UNIT	PAPER NUMBER
			1771	

DATE MAILED: 09/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/776,576	<b>Applicant(s)</b> MONK ET AL.	
	<b>Examiner</b> Hai Vo	<b>Art Unit</b> 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 8-10,12,13 and 16-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-10,12,13 and 16-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Prosecution Reopened***

1. The indicated allowability of claims 8-10, 12-13, and 16-24 is withdrawn. These claims should be rejected under 35 U.S.C. 103(a) as being unpatentable over Lynn et al (US 6,093,481) in view of Day (US 5,589,243) and Saidla (US 3,854,620); or under 35 U.S.C. 103(a) as being unpatentable over Johannsen (US 3,964,354) in view of Hansen (US 5,870,965) and Saidla (US 3,854,620) in the 04/23/2004 Office Action. Prosecution on the merits of this application is reopened on claims 8-10, 12-13, and 16-24 considered unpatentable for the following reasons. In the 04/23/2004 Office Action, the examiner stated that ~~the~~ US 5,693,423 to Laura et al discloses the composite structure having a foam and a fiber reinforced thermoplastic resin bonded to the foam by an adhesive. Laura et al teach that the foam having a density and a thickness within the claimed ranges having a shear strength of 25.9 psi (table 4, example V), which is much less than one-half the lower limit of the shear strength range as recited in the claims. Since the foam of Laura et al is formed from a polyurethane resin which is chemically different from the polypropylene foam of the present invention, the difference in the shear strength is totally irrelevant to the presently claimed subject matter and thus it does not render the instant claims unobvious over the prior art. The examiner respectfully apologizes for any confusion that may have been caused.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 13 recites the limitation "said fiber reinforced plastic" in line 2. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 8-10, 12, 13, 16-19, and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lynn et al (US 6,093,481) in view of Day (US 5,589,243) and Saidla (US 3,854,620). Lynn discloses an insulation board comprising an extruded, closed-cell foam core **13** faced on both sides with two facing sheets **11, 12** and the attachment is facilitated by thermoplastic or thermosetting adhesive (figure 1, and column 4, lines 9-14). Lynn discloses a rigid foam core made of polypropylene having a density of 1 to 5 pcf (column 5, lines 58 and 64). Lynn discloses the insulation board wherein the thicknesses of the foam core and the facing sheets are within the claimed ranges (column 5, lines 35-40). Lynn discloses the core and structural skins are bonded in the absence of a separated adhesive layer (column 4, lines 21-22). Lynn discloses the core and structural skins are adhesively bonded by extrusion (figure 5). Figure 5 shows that an apparatus having a chamber in which

Art Unit: 1771

the facing layers and the foam are bonded to each other. Likewise, it is clearly apparent that the core and structural skins are adhesively bonded by molding. It appears that Lynn uses a polypropylene resin to form the foam core. The foam core of Lynn has the density within the claimed range. Therefore, it is not seen that the foam core of Lynn would have performed differently from that of the present invention in terms of the shear strength. Like material has like property. This is in line with *In re Spada*, 15 USPQ 2d 1655 (1990) which holds that products of identical chemical composition can not have mutually exclusive properties.

Lynn is silent as to the uneven surface of the core. Day teaches a reinforced foam core **395** having a foam core panel **385** sandwiched between the two skin layers **394** wherein the core panel having grooves or recesses **386** on its upper and lower surfaces (figures 34 and 35, column 16, lines 36-56). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the grooves or recesses on both surfaces of the core in Lynn motivated by the desire to fill the resin within the recesses to form fillets which positively connect the core to the skins.

Lynn is silent as to the skin layers comprising fiber reinforced plastic material. Day teaches a reinforced foam core **395** having a foam core panel **385** sandwiched between the two skin layers **394** of fiber reinforced plastic materials. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the polymeric skin layer of Lynn with the fiber reinforced plastic

Art Unit: 1771

material motivated by the desire to obtain the composite material having the skin with higher strength.

Lynn is silent as to a layer of open cell at the surface of a foam due to skiving. Saidla teaches a container comprising a closed cell polyurethane foam sandwiched between the two skin layers (column 3, lines 48-50). Saidla discloses the surface of the polyurethane foam being sanded to enhance its bonding properties (column 8, lines 20-24). Likewise, it is clearly apparent that the layer of open cell at the surface of the closed cell foam would be inherently present by sanding to enhance its bonding properties. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to treat the surface of the foam core in Lynn by sanding motivated by the desire to enhance the bonding strength between the foam and the skins.

6. Claims 8, 10, 12, 13, and 16-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johannsen (US 3,964,354) in view of Hansen (US 5,870,965) and Saidla (US 3,854,620). Johannsen teaches the composite member for use in the construction of boat hulls having an extruded, rigid, ~~a~~ PVC foam core **10** laminated to a pair of skins of reinforced plastics **16** by an adhesive layer (figure 4, column 2, lines 37-51). Johannsen teaches the foam core is cut through most of its thickness ~~to~~ to form a lateral surface to form a hinge at the opposite lateral surface about which the core can be bent (figures 3 and 4). Johannsen discloses the core and structural skins are adhesively bonded by molding or bonded in the absence of a separated ~~adhesive~~ adhesive layer (column 2, lines 39-50). Johannsen does not teach the foam core

Art Unit: 1771

made of a polypropylene homopolymer. Hansen discloses a high performance boat comprising a foam stabilizing member made from a closed cell polypropylene that is coated with a plastic protective material (abstract and column 6, lines 1-7). Hansen discloses the polypropylene foam having a density of 1 to 3 pcf (column 6, line 10). It appears that Hansen uses a polypropylene resin to form the foam core. The foam core of Johannsen/Hansen has the density within the claimed range. Therefore, it is not seen that the foam core of Johannsen/Hansen would have performed differently from that of the present invention in terms of the shear strength. Like material has like property. This is in line with *In re Spada*, 15 USPQ 2d 1655 (1990) which holds that products of identical chemical composition can not have mutually exclusive properties. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the PVC foam with the closed cell polypropylene foam of the Hansen invention motivated by the desire to provide a buoyant foam core that does not absorb water and withstands the harsh environment encountered by a high speed watercraft including normal docking and moorage bumping.

Johannsen is silent as to a layer of open cell at the surface of a foam due to skiving. Saidla teaches a container comprising a closed cell polyurethane foam sandwiched between the two skin layers (column 3, lines 48-50). Saidla discloses the surface of the polyurethane foam being sanded to enhance its bonding properties (column 8, lines 20-24). Likewise, it is clearly apparent that the layer of open cell at the surface of the closed cell foam would be inherently present by

sanding to enhance its bonding properties. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to treat the surface of the foam core in Johannsen by sanding motivated by the desire to enhance the bonding strength between the foam and the skins.

Johannsen does not specifically disclose the thickness of the foam core or the thickness of the skin layer. However, such a variable would have been recognized by one skilled in the art to balance the cost and mechanical strength of the composite material. As such, in the absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the composite material having the foam core thickness or the skin layer thickness instantly claimed motivated to balance the cost and mechanical strength of the composite material since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Johannsen does not specially disclose the core and structural skins are adhesively bonded by molding directly to fiber reinforced plastic in an uncured state and then curing the fiber reinforced plastic. However, it is a product-by-process limitation. It is the examiner's position that the article of Johannsen as modified by Hansen and Saidla is identical or only slightly different than the claimed article prepared by the method of the claim, because both articles are formed from the same materials, having structural similarity (foam core sandwiched between two skin layers). Even though product-by-process claims are limited by and defined by the



process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or ~~an~~ obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289,291 (Fed. Cir. 1983). The Johannsen as modified by Hansen and Saidla reference strongly suggests the claimed subject matter. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Johannsen/Hansen/Saidla.

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on M,T,Th, F, 7:00-4:30 and on alternating Wednesdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1771

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hai V<sub>o</sub>

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